SHRI VITHALBHAI MOTIRAM PATEL : May I know from the hon. Minister, what is the machinery to collect information from different parts of the country and whether there is any proposal to set up more such institutes in the country ?

SHRI K. NARAYANAN: We have conceived of four main institutes in the country. They will be in Bhubaneshwar, Pune, Hyderabad and Delhi. Later on, there would also be a centre in every capital of the States in the country. Eventually, we would have subsidiary centres in different parts of the country In the districts, as I mentioned, there would be computers into which would be fed socio-economic, administrative, health and other sources of information relevant to national development.

Laboratory for Production of Radio-Active Labelled Biomolecules

*484. SHRI RAJNI RANJAN SAHU : Will the PRIME MINISTER be pleased to state :

(a) whether a laboratory to produce radio-active labelled biomolecules, including gama-ATP and Alpha DCTP, which are useful for research in genetic engineering, has been set up in Hyderabad; and

(b) if so, what are the main objectives of this laboratory ?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND THE MINISTER OF STATE IN THE DEPARTMENTS OF OCEAN DEVELOPMENT, ATOMIC ENERGY, ELECTRONICS AND SPACE (SHRI K R. NARAYANAN) : (a) Yes, Sir. A laboratory for the production of radioisotope labelled biomolecules including Gamma ATP and Alpha DCTP has been set up by the Department of Atomic Energy at Hyderabad.

(b) The main objective of this laboratory is to produce phosphorus-32 and Sulphur-35 labelled biomolecules for use in biological and genetic engineering research.

SHRI RAJNI RANJAN SAHU : Mr. Chairman, Sir, it is learnt that radio-isotopes are useful in tackling the problem of thyroid deficiency. A number of people in the rural areas are suffering from this This goes undetected. In this connection, I would, first of all, like to congratulate the Government on the production of radio-isotopes in our country. I would like to know from the hon Minister what progress has been made so far in the field of genetic engineering in the country and how far it is going to help medical science and our defence.

SHRI K. R. NARAYANAN : We have made considerable progress in research in the field of genetic engineering Several laboratories are working in this field. As the House knows, it was through the utilisation of the results of research in genetic engineering that we were able to usher in the Green Revolution in the country. We are also doing this on a large scale for the purpose of medicine in the programme for preparing vaccines and also in tissue culture, in agriculture and various other fields. The question actually refers to the production of biomolecules and they are, as I have explained in my answer, being produced in Hyderabad, in the laboratory run by the Atomic Energy Agency while the isotopes are being produced at BARC.

SHRI RAJNI RANJAN SAHU : My second supplementary is whether any foreign technology has been secured for this project. If so, what is the name of the country from which collaboration was received ?

SHRI K. R. NARAYANAN : There is no collaboration agreement for the development of these biomolecules so far. They are being indigenously developed. Of course, our Scientists react generally with the institutions and scientists working in this field abroad.

PROF. C. LAKSHMANNA : Chairman, Sir, I would like to ask whether this Institute which is going to produce phosphorus-32 and sulphur-35 has any linkages with other medical institutions or bio-

logical institutions or agriultural institutions in the country. If there is linkage, what is the way of transfer of technology between these institutes so that what has been produced here at Hyderabad laboratory could be used by those labs in the country ?

SHRI K. R. NARAYANAN : This institute has linkages with about 20 other major laboratories in India. I have a list of them. These are all the major laboratories doing research in this or similar fields. It is actually a list of about 21. I would be very glad to send this to the hon. Member but there is certainly going on interaction, intellectual interaction, cooperation between this institution and various other institutes and laboratories working in this particular field.

PROF. B. RAMCHANDRA RAO: Mr. Chairman, Sir, this setting up of a laboratory for radioative labelled biomolceules in the CCMB is a major event in the country. I understand that prior to this, this was located in the Department of Atomic Energy, especially at Bombay. What I would like to know is in what way this energy molecule called the adenocirl diphosphate which is labelled by phosphorus and sulphur radioactive material, helps in the biophysical and genetic engineering, whether any major findings have already been discovered or observed either in the BARC or here.

The second part of my question is, significantly it is located in CCMB. What is the interaction between this department which is set up under the control of the Department of Atomic Energy and the CCMB. Is there a close linkage between these two departments, the Atomic Energy Department wing set up in the CCMB and the CCMB itself and in what way will this interaction help in the improvement of genetics engineering molecular production ?

SHRI K. R. NARAYANAN: The purpose of this radio isotope phosphorus-32 and Sulphur-35 which are being produced at this new laboratory, in Hyderabad, called Jonaki, it is a Bengali name is to trace the path of DNA—molecule. It will give an insight into the mechanism of genetic process and only after knowing this mechanism we can utilize it for other purposes —medicinal and otherwise.

So far we are producing only these two compounds phosphorus-32 and sulhpur-35. I understand, sulphur-35 is not yet being produced but it will be produced within a few months or so. There are 20 similar compounds which we will produce in the near future.

As regards relationship between this laboratory and the CCMB, it is not only set up in the campus but there is very close cooperation and interaction between these two laboratories, because as you know this laboratory i.e., C.C.M·B is also working in the molecular field Therefore, it is the right campus where general as well as specific interaction can take place. I cannot tell what exact technical process is going on between these two, but I can surely, say, as you certainly know, that these are related laboratories and they they cooperate with each other.

DR. G. VIJAY MOHAN REDDY: Genetic engineering is most useful in agriculture also especially in drought-resistant varieties of seeds. What progress has been made in this particular field. This is one question

Another is, China has done a lot of original work in application of genetic engineering to agriculture Would the Government have some exchanges with the scientists of China in this particular regard?

SHRI K. R. NARAYANAN: Sir, our scientists who have been working, though not in this particular laboratory, but in the related wider field of research in biology and bio-technology, have been developing drought-resistant as well as pest-resistant varieties of plants and some of them are already in use, though not on a very large scale.

As regards our cooperation with China, we have a general agreement, understanding, or a kind of protocol with China in the scientific field and I presume that it will cover bio-technology also But I have no details because the question does

not deal with this aspect I have not brought specific information about this, but there is a general agreement betwewen India and China for cooperation in science and technology which can include bio-technology also.

DR. (SHRIMATI) SAROJINI MAHISHI: Atomic energy has extended its peaceful uses to a variety of fields also. Under the circumstances, a part of the research work was being undertaken in Bombay. Experiments were being done for increasing output of oil in the groundnut by radiating groundnut with gamma rays. I would like to know whether those experiments are confined only to the laboratory, or have been extended to the filed also.

SHRI K R. NARAYANAN. Sir, this question is outside the purview of this particular question, though I can inform the hon Member that BARC has developed a new variety of groundnut which is being cultivated, I think, in Maharashtra and Madhya Pradesh.

MR. CHAIRMAN: Qusetion No. 485 Absent.

*485. [*The questioner (Shri Parvathaneni Upendra) was absent. For answer,* vide *col* 36 infra.]

Resettlement support to ex-Army personnel

*486 DR RATNAKAR PANDEY: Will the PRIME MINISTER be pleased to state:

(a) whether it is Government's policy to provide resettlement support to ex-army personnel, by reserving a specified quota in various civil services; and

(b) if so, whether they are being given a number of annual increments in their respective pay scales, equal to the number of years of their army services; if not, what are the reasons therefor?

THE MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS AND THE MINISTER OF STATE IN THE MINISTRY OF HOME AFFAIRS (SHRI P. CHIDAMBARAM): (a) and (b) A statement is laid on the Table of the House.

Statement

(a) Yes, Sir.

Reservations have been made in Group C & D posts in all Central Civil Services and in the posts at the level of Assistant Commandants in all para-military forces. 10 per cent of the vacancies in the posts of the level of Assistant Commandants of all para-military forces. 10 per cent of the vacancies in each of the categories of Group C posts and 20 per cent of the vacancies in each of the categories of Group D posts to be filled by direct recruitment in any year have been reserved for being filled by ex-servicemen. This is subject to the condition that the percentage of reservation for ex-servicemen in a category of posts shall be increased or decreased in any one recruitment year to the extent to which the total number of vacancies covered by all reservations falls short or is in excess, as the case may be of fifty per cent of the vacancies in that category of posts filled in that year.

(b) Service rendered as a combatant clerk|storeman in the Armed Forces is allowed to be treated as equivalent to service as Lower Division Clerk|Junior Clerk| Storeman in Civil departments and initial pay in these posts is fixed at a higher stage above the minimum of the scale equal to the number of completed years of service as combatant clerk|storeman. Further, Emergency Commissioned Officers|Short Service Commissioned Officers who joined precommissioned training or were commissioned after 10th January, 1968, on their appointment to Government service in unreserved vacancies and ex-servicemen who are retrenched from service and are not granted pension and|or service gratuity, are allowed advance increments equal to completed years of service rendered in Armed Forces on a basic pay equal to or higher than the minimum of the scale of the civil post in which they are employed.

डा० रत्नाकर पांण्डेय : माननीय सभापति जी, क्या यह सच है कि विभिन्न